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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,844	09/13/2006	Yasuyuki Naito	41064	1214

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EXAMINER	
LE, DON P	

ART UNIT	PAPER NUMBER
2819	

NOTIFICATION DATE	DELIVERY MODE
12/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,844	NAITO, YASUYUKI	
	Examiner	Art Unit	
	Don P. Le	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6,7,9,12-19 and 24-27* is/are rejected.

7)☒ Claim(s) *2,4,5,8,10,11 and 20-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 7, 9 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ma et al. (US 6,570,468).

3. With respect to claim 1, figures 1-3 of Ma teaches an electromechanical signal selection device comprising:

a micro-vibrator (figure 1) which can be excited by an input signal (input signal to 140); and

a post (220) for retaining the micro-vibrator, wherein the physical property of the micro-vibrator changes when excites so as to select a signal (it vibrates, therefore physical property is changed).

4. With respect to claim 3, the apparatus of Ma teaches the physical property is an electric conduction characteristic (this is so because an electrical current is introduced in order to the apparatus to operate).

5. With respect to claim 7, figure 1 of Ma discloses the micro-vibrator comprises a multilayer structure of at least two layers including a material layer generating the change in physical property (145) and a conductor layer (140).

6. With respect to claim 9, figure 1 of Ma teaches the material layer generating the change in physical property is formed on the side where an electric field of a signal is concentrated (one of 145 side is near where the electric field is concentrated at 140).

7. With respect to claim 19, figure 1 of ma discloses the input signal is supplied through an electrode (140) provided in the micro-vibrator.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468). Ma does not specify the rigidity of the post with respect to the vibrator as claimed by applicant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have designed the rigidity of the post with respect to the vibrator, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

10. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468) in view of Li et al. (US 6,916717).

11. With respect to claim 12, Ma does not specify perovskite transition metal as claimed by applicant. Li teaches metal layer having perovskite transition metal for the purpose of forming integrated circuit on a substrate. It would have been obvious to one

of ordinary skill of art at the time the invention was made to have used perovskite transition metal in the apparatus of Ma as taught by Li for the purpose of having a substrate.

12. With respect to claim 13, given the teaching of Li on the perovskite transitional metal. PrNiO3 is a subset of the material. Therefore, it is anticipated.

13. Claims 14, 15, 24 , 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468) in view of Monroe et al. (US 6,914,709).

14. With respect to claim 14, Ma does not specified piezoelectric effect material as claimed by applicant. Monroe teaches a design of a MEM device formed with piezoelectric effect material. It would have been obvious to one of ordinary skill of art at the time the invention was made to have used piezoelectric effect material in the apparatus of Ma as taught by Monroe for the purpose of forming a moving mechanism.

15. With respect to claim 15, the apparatus of Ma has Si in it.

16. With respect to claim 24, the modified apparatus of Ma in view of Monroe teaches the change in physical property is caused by piezoelectric effect.

17. With respect to claim 25, it is inherent in the apparatus of Ma in view of Monroe that the micro-vibrator is designed to generate a signal by virtue of the piezoelectric effect when the micro-vibrator is excited to produce a structural change.

18. With respect to claim 27, the teaching of Ma in view of Monroe teaches using piezoelectric material in an apparatus to obtain desired effect. Using PZT is a matter of choice given that it is a piezoelectric material.

19. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468) in view of Prophet (US 6,788,175).

20. With respect to claim 16, Ma does not specify superconductor as claimed by applicant. Prophet discloses a MEMS device using superconducting material for the purpose of having more reliable MEMS. It would have been obvious to one of ordinary skill of art at the time the invention was made to have used superconductor as taught by Prophet for the purpose of forming a more reliable piezoelectric effect material in the apparatus of Ma as taught by Monroe for the purpose of forming a more reliable vibrator.

21. With respect to claim 17, given the teaching of using superconductor by Prophet in rejection above. It would be a matter of choice to have used the material as claimed by applicant.

22. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468) in view of Ono et al. (US 6,753,488). Ma does not specify carbon based material as claimed by applicant. Ono teach design of a MEMS using carbon based material for reliability. It would have been obvious to one of ordinary skill of art at the time the invention was made to have used carbon based material in the apparatus of Ma as taught by Ono for the purpose of having high reliability.

23. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 6,570,468) in view of Murata (US 6,972,636). Ma does not specified caramics as claimed by applicant. Murata teaches using ceramics base for a MEMS circuit as a matter of choice. It would have been obvious to one of ordinary skill of art at the time

the invention was made to have used ceramics in the apparatus of Ma as taught by Murat as a matter of choice for performance.

Allowable Subject Matter

24. Claims 2, 4, 5, 8, 10, 11 and 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. The following is an examiner's statement of reasons for allowance:

With respect to claim 2, the prior art does not disclose a crystal.

with respect to claim 4, in addition to other elements in the claim, the prior art does not teach the micro-vibrator is retained by an electrode placed on the post.

with respect to claim 8, the prior art does not teach the conductor is formed to be linear and the material layer generating the change in physical property is formed around the linear conductor layer.

with respect to claim 10, the prior art does not teach the material layer generating the change in physical property is formed under the substrate side of the conductor layer.

with respect to claim 11, the prior art does not teach half the radius of the conductor is not larger than skin depth of a high frequency signal.

with respect to claim 20, the prior art does not teach the input signal is supplied through a driving electrode disposed adjacently to the micro-vibrator.

with respect to claim 22, the prior art does not a mechanism for applying an external magnetic field to the micro-vibrator is provided to excite the micro-vibrator due to a Lorentz force.

with respect to claim 23, the prior art does not teach a mechanism for applying an external magnetic field is provided in a driving electrode or a signal input electrode dispose adjacently to the micro-vibrator so as to excite vibration of the micro-vibrator in a desired direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

26. Applicant's arguments filed 9/19/2008 have been fully considered but they are not persuasive.

applicant arguments are not directed toward the claimed invention in that a resonator as disclosed by Ma it excited (vibrates) and an input signal is supplied to the resonator. It is true that Ma modified the structure to obtain better performance, but that does not change the fact that the resonator of Ma vibrates or excited when an input signal is inputted. The "name of the game" is the claimed language.

With respect to claim 3 argument, an introduction of an electrical signal will produce an electric field.

In addition, the Prior art will not describe all features of an invention that are inherent or well known in the art. Therefore, the claim rejections are proper.

27. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don P. Le whose telephone number is 571-272-1806. The examiner can normally be reached on 7AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barnie Rexford can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Don P Le/
Primary Examiner, Art Unit 2819
12/11/2008